



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Charles Stone et al.
Application No. : 10/780,542
Filed : February 17, 2004
For : GRAFT POLYMERIC MEMBRANES AND ION-
EXCHANGE MEMBRANES FORMED THEREFROM

Art Unit : 1713
Docket No. : 130109.472C1
Date : November 10, 2004

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents:

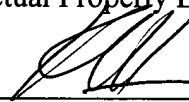
In accordance with 37 CFR 1.56 and 1.97 through 1.98, applicants wish to make known to the Patent and Trademark Office the references set forth on the attached Form PTO-1449. This application relies, under 35 U.S.C. § 120, on the earlier filing date of prior Application No. 09/934,176, filed August 21, 2001, now U.S. Patent 6,723,758, which is a CIP of prior Application No. 09/503,760, filed February 14, 2000, now abandoned, which is a CIP of prior Application No. 08/967,960, filed November 12, 1997, now U.S. Patent 6,359,019. The references listed on the attached Form PTO-1449 were submitted to and/or cited by the Patent and Trademark Office in this prior application and, therefore, are not required to be provided in this application. If the Examiner wishes, copies will be provided upon request. As to any reference supplied, applicants do not admit that it is "prior art" under 35 U.S.C. §§ 102 or 103, and specifically reserve the right to traverse or antedate any such reference, as by a showing under 37 CFR 1.131 or other method. Although the aforesaid references are made known to the Patent and Trademark Office in compliance with applicants' duty to disclose all information they

are aware of which is believed relevant to the examination of the above-identified application, applicants believe that their invention is patentable.

Please acknowledge receipt of this Information Disclosure Statement and kindly make the cited references of record in the above-identified application.

Applicants believe this Information Disclosure Statement has been timely filed, however, the Director is authorized to charge any fee due by way of this Information Disclosure Statement to our Deposit Account No. 19-1090.

Respectfully submitted,
Seed Intellectual Property Law Group PLLC



Karl R. Hermanns
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Enclosures:

Postcard
Form PTO-1449

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FORM PTO-1449
(REV.7-80)U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICEATTY. DOCKET NO.
130109.472C1APPLICATION NO.
10/780,542INFORMATION DISCLOSURE STATEMENT
(Use several sheets if necessary)

APPLICANTS

Charles Stone

FILING DATE

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GROUP ART UNIT

1713

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	AA	3,341,366	09/12/67	Hodgdon, Jr. et al.	136	86	
	AB	4,012,303	03/15/77	D'Agostino et al.	204	159.17	
	AC	4,113,922	09/12/78	D'Agostino et al.	429	33	
	AD	4,140,815	02/20/79	Dege et al.	427	44	
	AE	4,169,023	09/25/79	Sata et al.	204	98	
	AF	4,262,041	04/14/81	Eguchi et al.	427	245	
	AG	4,420,612	12/13/83	Aiba et al.	536	102	
	AH	4,506,035	03/19/85	Barnett et al.	521	53	
	AI	4,605,685	08/12/86	Momose et al.	522	124	
	AJ	5,049,253	09/17/91	Izuo et al.	204	301	

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION	
					YES	NO
	AK	0 140 544 A2	05/08/85	EP		
	AL	60-110711	06/17/85	JP		
	AM	WO 95/08581	03/30/95	WIPO		
	AN	WO 96/40798	12/19/96	WIPO		
	AO	WO 97/25369	07/17/97	WIPO		
	AP	WO 99/24497	05/20/99	WIPO		

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

	AQ	Babie et al., "Kinetics of Diffusion-free Radiation Graft Polymerization of Styrene onto Polyethylene," <i>J. Polymer Science: Polymer Chemistry Edition</i> 15:469-488, 1977.
	AR	Babie et al., "Study of Energy Transfer to Solvent in Radiation Graft Polymerization of Styrene onto Polyethylene," <i>J. Polymer Science: Polymer Chemistry Edition</i> 15:1619-1628, 1977.

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DATE CONSIDERED

* EXAMINER: Initial if reference considered, whether or not criteria is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant(s).

FORM PTO-1449 (REV.7-80)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO. 130109.472C1	APPLICATION NO. 10/780,542
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*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	BA	5,140,074	08/18/92	DeNicola, Jr. et al.	525	263	
	BB	5,420,200	05/30/95	Koning et al.	525	68	
	BC	5,422,411	06/06/95	Wei et al.	526	243	
	BD	5,498,639	03/12/96	Wei et al.	521	27	
	BE	5,602,185	02/11/97	Stone et al.	521	27	
	BF	5,656,386	08/12/97	Scherer et al.	429	33	
	BG	5,684,192	11/04/97	Stone et al.	562	826	
	BH	5,777,038	07/07/98	Nishikawa et al.	525	295	
	BI	5,817,718	10/06/98	Nezu et al.	525	64	
	BJ	5,830,96	11/03/98	Feiring et al.	526	243	
	BK	5,863,994	01/26/99	DeNicola, Jr. et al.	526	74	
	BL	6,359,019	03/19/02	Stone et al.	521	27	

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		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION	
					YES	NO
	BM					

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

	BN	Gupta et al., "Cation Exchange Membranes by Pre-irradiation Grafting of Styrene onto FEP Films. I. Influence of Synthesis Conditions," <i>J. Polymer Science: Part A: Polymer Chemistry</i> 32:1931-1937, 1994.
	BO	Gupta et al., "Proton Exchange Membranes by Radiation Grafting of Styrene onto FEP Films. II. Mechanism of Thermal Degradation in Copolymer Membranes," <i>J. Applied Polymer Science</i> 51:1659-1666, 1994.
	BP	Guzman-Garcia et al., "Analysis of radiation-grafted membranes for fuel cell electrolytes" <i>J. Applied Electrochemistry</i> 22:204-214, 1992.

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CA						

FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES NO
CB			

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

CC	Hodgdon et al., "Note: Preparation and Polymerization of Substituted Alpha, Beta, Beta-trifluorostyrenes," <i>J. Polymer Science: Part A-1</i> , vol. 6:711-717, 1968.
CD	Momose et al., "Radiation Grafting of Alpha, Beta, Beta-trifluorostyrene onto Various Polymer Films by Preirradiation Method," <i>J. Applied Polymer Science</i> 37:2165-2168, 1989.
CE	Momose et al., "Radiation Grafting of Alpha, Beta, Beta-trifluorostyrene onto Poly(ethylene-tetrafluoroethylene) Film by Preirradiation Method. I. Effects of Preirradiation Dose Monomer Concentration, Reaction Temperature, and Film Thickness," <i>J. Applied Polymer Science</i> 37:2817-2826, 1989.
CF	Momose et al., "Radiation Grafting of Alpha, Beta, Beta-trifluorostyrene onto Poly(ethylene-tetrafluoroethylene) Film by Preirradiation Method. II. Properties of Cation-Exchange Membrane Obtained by Sulfonation and Hydrolysis of the Grafted Film," <i>J. Applied Polymer Science</i> 38:2091-2101, 1989.
CG	Momose et al., "Radiation Grafting of Alpha, Beta, Beta-trifluorostyrene onto Poly(ethylene-tetrafluoroethylene) Film by Preirradiation Method. III. Properties of Anion-exchange Membrane Obtained by Chloromethylation and Quaternization of the Grafted Film," <i>J. Applied Polymer Science</i> 39: 1221-1230, 1989.
CH	Nikitina, T.S., " $\alpha\beta\beta$ -Trifluorostyrene and polymers based on it," <i>Russian Chemical Reviews</i> 59(6): 575-589, 1990.
CI	Rouilly et al., "Proton Exchange membranes Prepared by Simultaneous Radiation of Styrene onto Teflon-fep Films - Synthesis and Characterization," <i>J. Membrane Science</i> , vol. 81:89-95, 1993.
CJ	Scherer et al., "Radiation Grafted Membranes: Some Structural Investigations in Relation to their Behavior in Ion-exchange Membrane Water Electrolysis Cells," <i>Int'l. J. Hydrogen Energy</i> 17:115-123, 1992.

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